UNITED STATES PATENT AND TRADEMARK OFFICE

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POGMORE, TRAVIS D

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2008*.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-19* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *10 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a)☒ All   b)☐ Some * c)☐ None of:
     1.☒ Certified copies of the priority documents have been received.
     2.☐ Certified copies of the priority documents have been received in Application No. _____.
     3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the request for reconsideration filed December 3,
2008.

2.   Claims 1-19 are currently pending. Claims 1-16 and 18-19 are currently amended
and claims 21-22 have been cancelled.

3.   Applicant's arguments, with regards to claims 1-21, filed December 3, 2008 have
been fully considered but they are not persuasive.

Examiner Notes

4.   Examiner cites particular columns and line numbers in the references as applied
to the claims below for the convenience of the applicant. Although the specified citations
are representative of the teachings in the art and are applied to the specific limitations
within the individual claim, other passages and figures may apply as well. It is
respectfully requested that, in preparing responses, the applicant fully consider the
references in entirety as potentially teaching all or part of the claimed invention, as well
as the context of the passage as taught by the prior art or disclosed by the examiner.

5.   The text of those sections of Title 35, U.S. Code not included in this action can
be found in a prior Office action.

Claim Objections

6.   Applicant's arguments, see page 6, and respective amendments filed 18
November 2008, with respect to the informalities of claims 1, 10, and 21 have been fully

considered and are persuasive. The objections of claims 1, 10, and 21 have been

withdrawn.

Claim Rejections – 35 USC § 112

7.   Claims 1, 9, 11, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention. The recited terms "watermarking

properties" and "signal dependent properties" do not distinctly claim the invented

subject matter and render thus render the claims indefinite. The terms are not clearly

defined in the specification and are so broad as to render the claims unclear to a person

possessing the ordinary level of skill in the art. Nowhere in the disclosure is there a

definition or even example of what the watermarking properties actually consist of.

        Claims 2-8, 10, 12-17, 19 and 21 are rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for at least the reason stated above. Claims 2-8 are

dependent on claim 1; however, they do not add any feature or subject matter that

would solve any of the indefiniteness of claim 1. Claim 10 is dependent on claim 9;

however, it does not add any feature or subject matter that would solve any of the

indefiniteness of claim 9. Claims 12-17 are dependent on claim 11; however, they do

not add any feature or subject matter that would solve any of the indefiniteness of claim

11. Claim 19 is dependent on claim 18; however, it does not add any feature or subject

matter that would solve any of the indefiniteness of claim 18. Claim 21 is dependent on

claim 20; however, it does not add any feature or subject matter that would solve any of

the indefiniteness of claim 20.

Claim Rejections – 35 USC § 101

8.   As claims 20-21 have been canceled, the rejections thereof have been

withdrawn.

Claim Rejections – 35 USC § 102

9.   Claims 1-4, 7-8, 11-14, and 17 are rejected under 35 U.S.C. 102(b) as being

anticipated by U.S. Patent Application Pub. No. US 2001/0025341 A1 (hereinafter

"Marshall").

        As to claim 1, Marshall teaches a method of embedding watermarks in different

copies of a media signal comprising:

        determining watermarking properties dependent on the media signal (page 3,

column 2, paragraph 35, the selected sections comprising the watermarking properties),

and

        storing the watermarking properties, such that the watermarking properties can

be used when embedding unique watermarks in different copies of the media signal

(page 3, column 2, paragraphs 36-37, only those selected sections are copied and

embedded with elementary watermarks, so these copies comprise the stored

watermarking properties).

        As to claim 2, Marshall teaches further comprising sending the media signal

together with information at least based on the watermarking properties to at least one

recipient (page 3, column 2, paragraph 39, wherein the information based on the watermarking properties is a transaction specific watermark).

As to claim 3, Marshall teaches further comprising embedding the unique watermarks in different copies of the media signal using the watermarking properties and wherein a copy of the media signal is sent to each recipient with an embedded unique watermark (page 3, column 2, paragraph 39, a transaction specific watermark is by definition unique).

As to claim 4, Marshall teaches further comprising mixing watermarks for providing a unique mix of the watermarks in copies of the media signal (page 4, column 1, paragraph 42).

As to claim 7, Marshall teaches wherein the watermarking properties are based on a perceptual model of a human sensing system (page 3, column 2, paragraph 35, lines 1-5 and 8-14, considering which sections are more likely to be noticed (and thus tampered with less) and which sections are harder to hide watermark data in inherently requires a perceptual model of the human sensing system).

As to claim 8, Marshall teaches wherein the determining and storing are performed off-line and sending is performed on-line (Figs. 2-3 and page 3, column 1,

paragraphs 32-33, the preprocessing stage being off-line, i.e. in advance of delivery to a recipient).

As to claim 11, Marshall teaches a device for embedding watermarks in different copies of a media signal comprising a server unit including:

a properties determining unit for determining signal dependent watermarking properties of the media signal (page 3, column 2, paragraph 35, the selected sections comprising the watermarking properties), and

a signal properties store for storing the signal dependent watermarking properties, such that the signal dependent watermarking properties can be used for embedding unique watermarks in different copies of the media signal (page 3, column 2, paragraphs 36-37, only those selected sections are copied and embedded with elementary watermarks, so these copies comprise the stored watermarking properties).

As to claim 12, Marshall teaches further comprising a sending unit arranged to send the media signal together with information at least based on the signal dependent watermarking properties to at least one recipient (page 3, column 2, paragraph 39, wherein the information based on the watermarking properties is a transaction specific watermark).

As to claim 13, Marshall teaches further comprising at least one watermarking unit for embedding the unique watermarks in different copies of the media signal using

the stored signal dependent watermarking properties for enabling the sending of a

uniquely watermarked media signal to each recipient (page 3, column 2, paragraph 39,

a transaction specific watermark is by definition unique).

As to claim 14, Marshall teaches wherein the sending unit further comprises a

mixing unit arranged to mix watermarks such that the unique watermark sent to a

recipient is a unique mix of the generated watermarks (page 4, column 1, paragraph

42).

As to claim 17, Marshall teaches wherein the properties determining unit is

arranged to determine the signal dependent watermarking properties based on a

perceptual model of a human sensory system (page 3, column 2, paragraph 35, lines 1-

5 and 8-14, considering which sections are more likely to be noticed (and thus tampered

with less) and which sections are harder to hide watermark data in inherently requires a

perceptual model of the human sensing system).

Claim Rejections – 35 USC § 103

10.   Claims 5, 9, 15, and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Marshall in view of U.S. Patent Application Pub. No. US

2002/0120849 A1 (hereinafter "McKinley et al.").

As to claim 5, Marshall teaches the method according to claim 2, but does not specifically teach wherein the media signal is sent together with the watermarking properties, for enabling embedding of a watermark by a recipient.

However, McKinley et al. teaches wherein the media signal is sent together with the watermarking properties, for enabling embedding of a watermark by a recipient (Fig. 4, references 420-430, where the watermarking properties are the "perceptual mask" as recited In page 7, column 1, paragraph 93 and page 10, column 1, paragraph 124, the media signal is the "input signal", and the recipient is the "watermark applicator" module as recited In page 11, column 1, paragraph 135, lines 1-5 and 10-18).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall to separate the actual watermark embedding out into a separate system as in McKinley et al. because it allows the processing to be distributed over multiple systems allowing larger watermark tasks to be completed (McKinley et al., page 11, column 1, paragraph 134, lines 6-12).

As to claim 9, Marshall teaches the method according to claim 1, but does not specifically teach further comprising:

- receiving the media signal together with the watermarking properties dependent on the media signal, nor

- embedding a watermark based on the watermarking properties in a copy of the media signal.

However, McKinley et al. teaches further comprising:

- receiving the media signal together with the watermarking properties dependent on the media signal (Fig. 4, references 420-430, where the watermarking properties dependent on the media signal are the "perceptual mask" as recited In page 7, column 1, paragraph 93 and page 10, column 1, paragraph 124, and the media signal is the "input signal"), and

- embedding a watermark based on the watermarking properties in a copy of the media signal (Fig. 4, reference 428, creating 430).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall to separate the actual watermark embedding out into a separate system as in McKinley et al. because it allows the processing to be distributed over multiple systems allowing larger watermark tasks to be completed (McKinley et al., page 11, column 1, paragraph 134, lines 6-12).

As to claim 15, Marshall teaches the device according to claim 12, but does not specifically teach wherein the sending unit is arranged to send the media signal together with the signal dependent watermarking properties for enabling embedding of a watermark by a recipient.

However McKinley et al. teaches wherein the sending unit is arranged to send the media signal together with the signal dependent watermarking properties for enabling embedding of a watermark by a recipient. (Fig. 4, references 418 and 420, where the sending unit is the perceptual analyzer and the recipient is the watermark applicator, both as recited in page 11, column 1, paragraph 135, lines 1-5 and 8-18).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall to separate the actual watermark embedding out into a separate system as in McKinley et al. because it allows the processing to be distributed over multiple systems allowing larger watermark tasks to be completed (McKinley et al., page 11, column 1, paragraph 134, lines 6-12).

As to claim 18, Marshall teaches the device according to claim 11, but does not specifically teach further comprising:

- a receiving unit for receiving the media signal together with the signal dependent watermarking properties dependent on the media signal, nor

- a watermarking unit arranged to embed a watermark based on the signal dependent watermarking properties in a copy of the media signal.

However McKinley et al. teaches further comprising:

- a receiving unit for receiving the media signal together with the signal dependent watermarking properties dependent on the media signal (page 11, column 1, paragraph 135, lines 1-5 and 10-18, the "watermark applicator" being the receiving unit, in order for the watermark applicator to combine the perceptual mask, the watermark information signal and the input signal it is inherent that that it be able to receive them utilizing a receiving unit), and

- a watermarking unit arranged to embed a watermark based on the signal dependent watermarking properties in a copy of the media signal (page 11, column 1, paragraph 135, lines 1-5 and 10-18).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall to separate the actual watermark embedding out into a separate system as in McKinley et al. because it allows the processing to be distributed over multiple systems allowing larger watermark tasks to be completed (McKinley et al., page 11, column 1, paragraph 134, lines 6-12).

11.   Claims 6, 10, 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall in view McKinley et al. and further in view of PCT Application Pub. No. WO 03/055130 A1 (hereinafter "Tian et al.").

As to claim 6, Marshall and McKinley et al. teach the method according to claim 5, but do not specifically teach further comprising losslessly encoding the watermarking properties in the media signal.

However, Tian et al. teaches further comprising losslessly encoding the watermarking properties in the media signal (Fig. 1E, where the "original image" is the media signal, and the "auxiliary data" is the watermarking properties).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall and McKinley et al. to losslessly encode the properties into the signal itself as in Tian et al. because it allows all of the necessary data required to watermark the media signal to be compressed into a single signal without the loss of any of the original data.

As to claim 10, Marshall and McKinley et al. teach the method according to claim 9, but do not specifically teach wherein the signal properties are losslessly encoded in the media signal and further comprising losslessly decoding the watermarking properties from the media signal.

However, Tian et al. teaches wherein the signal properties are losslessly encoded in the media signal and further comprising losslessly decoding the watermarking properties from the media signal (Figs. 1E and 1F, where the "original image" is the media signal, and the "auxiliary data" is the signal dependent properties).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall and McKinley et al. to losslessly encode the properties into the signal itself as in Tian et al. because it allows all of the necessary data required to watermark the media signal to be compressed into a single signal without the loss of any of the original data.

As to claim 16, Marshall and McKinley et al. teach the device according to claim 15, but do not specifically teach further comprising a lossless encoding unit for losslessly encoding the signal dependent watermarking properties in the media signal.

However, Tian et al. teaches further comprising a lossless encoding unit for losslessly encoding the signal dependent watermarking properties in the media signal (Fig. 1E, where the "original image" is the media signal, and the "auxiliary data" is the watermarking properties).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall and McKinley et al. to use a lossless encoding unit and losslessly encode the properties into the signal itself as in Tian et al. because it allows all of the necessary data required to watermark the media signal to be compressed into a single signal without the loss of any of the original data.

As to claim 19, Marshall and McKinley et al. teach the device according to claim 18, but does not specifically teach wherein the signal dependent watermarking properties are losslessly encoded in the media signal and further comprising a lossless decoding unit for losslessly decoding the signal dependent watermarking properties from the media signal.

However, Tian et al. teaches wherein the signal dependent watermarking properties are losslessly encoded in the media signal and further comprising a lossless decoding unit for losslessly decoding the signal dependent watermarking properties from the media signal (Figs. 1E and 1F, where the "original image" is the media signal, and the "auxiliary data" is the watermarking properties).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Marshall and McKinley et al. to use a lossless encoding unit and losslessly encode the properties into the signal itself as in Tian et al. because it allows all of the necessary data required to watermark the media signal to be compressed into a single signal without the loss of any of the original data.

Response to Arguments

12.   Applicant's arguments, with regards to claims 1-21 filed November 18, 2008 have

been fully considered but they are not persuasive.

13.   On pages 7-8 of the Response, Applicants argue that the "watermarking

properties ... have been described well by applicants in the specification."

14.   The Examiner respectfully disagrees with Applicant's arguments, because while

the disclosure, and in particular the cited passages, do discuss watermarking properties

as being "depend[ent] on the media signal" and, in one example, "based on a psycho-

acoustic model of the human hearing system", as stated in the previous Office Action

there is no definition or example in the disclosure. The first cited passage talks about

what they are determined by, and the second cited passage talks about one of their

influences. In neither passage nor elsewhere in the disclosure is an indication given of

what the properties actually are.

15.   On pages 8-9 of the Response, the Applicants argue that "Marshall does not

teach, show or suggest 'determining watermarking properties dependent on a media

signal'" and that "those selected sections are not stored by Marshall."

16.   The Examiner respectfully disagrees with Applicants arguments, because

Marshall does discuss the method of determining watermarking properties dependent

on a media signal on page 3, column 2, paragraph 35, e.g. "[S]elect only the main parts

of the image on the basis that these are less likely to be tampered with as they are more

likely to be noticed. In addition, the uniformity of a section can also be considered as the

more uniform a section, the harder it is to hide the watermark data unnoticeably within

the section." This section provides evidence that the watermarking properties (as cited above, the selected sections) are determined dependent on the media signal.

Furthermore, in paragraphs 36-38, Marshall recites "For each selected section, a set of multiple copies is made," "Once all the sets of multiple copies have been made, one set of copies is selected ... [and] a different elementary watermark is applied ... to each copy within the set," and "If there are any more sets remaining ... the procedure from the selection of a new set of multiple copies ... is repeated." As the copies of the selected sections are embodiments of the selected sections themselves and also in order for them to be later assembled with copies of other selected sections and non-selected sections in order to form a complete watermarked media file it is inherent that the information regarding the selected sections (i.e. watermarking properties) be stored.

17.   On pages 9-12 of the Response (regarding claims 5-6, 9-10, 15-16, and 18-21), the Applicants argue that "there is no teaching, showing, or suggestion that the perceptual mask of McKinley is stored as required by the limitations in claim 1" and that "there is no teaching, showing or suggestion that the auxiliary data of Tian is stored as required by the limitations in claims 1 and 11."

18.   This validity or invalidity of this position is considered irrelevant to the rejections at hand, since the storage of the watermarking properties has already been established by the primary reference of Marshall as further explained above.

19.   Therefore, in view of the above reasons, Examiner maintains the rejections.

Conclusion

20.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to TRAVIS POGMORE whose telephone number is

(571)270-7313. The examiner can normally be reached on Monday through Thursday

between 8:30 a.m. and 4:00 p.m. eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Pham can be reached on 571-272-3689. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. P./
Examiner, Art Unit 4148

        /Thomas K Pham/
Supervisory Patent Examiner, Art Unit 4148